$$\begin{array}{l} (a_1 \ b_2 - a_1 \ a_2) \ S \left( f_i \ I_{i,k} \ g_{ip}^2 \ I_{ip,k} \ I_{ip,l} \ f_j \ I_{j,l} \right) \\ (a_1 \ a_2 - e_1^2 \ e_2^2) \ S^2 \left( f_i \ I_{i,j} \ g_k \ I_{k,j} \right) \\ (a_2 \ b_1 - a_1 \ a_2) \ S \left( f_i^2 \ I_{i,j} \ I_{i,k} \ g_{ip} \ I_{ip,k} \ g_l \ I_{l,j} \right) \\ ((b_1 - a_1) \ b_2 - a_2 \ b_1 + a_1 \ a_2) \ S \left( f_i^2 \ I_{i,j} \ I_{i,k} \ g_l^2 \ I_{l,j} \ I_{l,k} \right)$$